

PR00-0103-00

WHAT IS CLAIMED IS:

1. A computer-readable recording medium having recorded therein a video game program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster,

said computer-readable recording medium having recorded therein a program for causing a computer to acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

calculate, according to said amount of parallel movement of said cluster acquired and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

2. A computer-readable recording medium for a video game according to claim 1, wherein said computer is further caused to

move, according to a movement of a joint in a virtual skeleton defining a framework of said three-dimensional object and including a plurality of

FP00-0103-00

joints, each of said plurality of vertexes being associated with at least one of said plurality of joints, said vertex corresponding thereto after the parallel movement of said vertexes.

5

3. A computer-readable recording medium for a video game according to claim 1, wherein said acquisition of the amount of parallel movement of said cluster includes:

10

determining whether an amount of parallel movement of each said cluster in a frame display period being processed is defined or not;

15

calculating, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is not defined, the amount of parallel movement of each said cluster in said frame display period being processed according to an amount of parallel movement of each said cluster in a frame display period having already been processed and an amount of parallel movement of each said cluster in a frame display period to be processed later; and

20

acquiring, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is defined, the defined amount of parallel movement of each said cluster in said frame display period being processed.

25

FP00-0103-00

4. A three-dimensional object transforming method  
in a video game for transforming a three-dimensional  
object having a form at least a part of which is  
5 determined by a plurality of vertexes associated with  
a cluster, said method including:

acquiring, in each frame display period, an  
amount of parallel movement of said cluster according  
to animation data defining a movement of said  
10 three-dimensional object; and

calculating, according to this acquired amount  
of parallel movement of said cluster and a weight  
predefined for each said vertex corresponding to said  
cluster, an amount of parallel movement of each said  
15 vertex and moving, according to this calculated amount  
of parallel movement, said vertexes parallel to each  
other in each said frame display period.

5. A three-dimensional object transforming method  
20 in a video game according to claim 4, further including:

moving, according to a movement of a joint in  
a virtual skeleton defining a framework of said  
three-dimensional object and including a plurality of  
joints, each of said plurality of vertexes being  
25 associated with at least one of said plurality of joints,  
said vertex corresponding thereto after the parallel

FP00-0103-00

movement of said vertexes.

5 6. A three-dimensional object transforming method in a video game according to claim 4, wherein said acquisition of the amount of parallel movement of said cluster includes:

determining whether an amount of parallel movement of each said cluster in a frame display period being processed is defined or not;

10 calculating, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is not defined, the amount of parallel movement of each said cluster in said frame display period being processed according to an amount of parallel movement of each said cluster in a frame display period having already been processed and an amount of parallel movement of each said cluster in a frame display period to be processed later; and

15 acquiring, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is defined, the defined amount of parallel movement of each said cluster in said frame display period being processed.

20 7. A video game apparatus, which comprises a computer-readable storage medium storing a program for

FP00-0103-00

5 a video game which transforms a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, and a computer which reads out and executes at least one of said programs from said computer-readable storage medium to perform the read out program,

10 acquiring, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

15 calculating, according to said amount of parallel movement of said cluster acquired by said acquiring means and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

20

8. A video game apparatus for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, said apparatus having:

25

a computer; and

a computer-readable recording medium having

FP00-0103-00

recorded therein a program to be executed by said computer;

said program causing said computer to execute:  
an acquiring process for acquiring, in each frame  
5 display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

a moving process for calculating, according to  
said amount of parallel movement of said cluster  
10 acquired by said acquiring process and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

15 9. A video game program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster,

20 said computer program for causing a computer to acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

25 calculate, according to said amount of parallel movement of said cluster acquired and a weight

FP00-0103-00

predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

10. A computer program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, said computer program for causing a computer to

acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

calculate, according to this acquired amount of parallel movement of said cluster and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.